

a depth image production section for comparing the converted images using stereo imaging to calculate a distance to the object.

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cancel.
3. (Twice Amended) A three-dimensional structure estimation apparatus which measures a distance to an object, comprising:

a plurality of first cameras for producing images of the object from different angles and having different resolutions from each other;

a plurality of second cameras for producing images of the object from different angles and having different visual fields from each other;

conversion means for converting the images outputted from said first and second cameras into converted images whose pixel units are equal in the amount of object represented thereby; and

a depth image production section for comparing the converted images using stereo imaging to calculate a distance to the object.

5. (Twice Amended) A three-dimensional structure estimation apparatus which measures a distance to an object, comprising:

C2
a plurality of cameras for producing images of the object from different angles and having different resolutions from each other;

conversion means for converting the images produced by said cameras into converted images whose pixel units are equal in the amount of object represented thereby by parallel movement by different movement amounts; and

a depth image production section for comparing the converted images using stereo imaging to calculate a distance to the object.

6. (Twice Amended) A three-dimensional structure estimation apparatus which measures a distance to an object, comprising:

a plurality of first cameras for producing images of the object from different angles and having different resolutions from each other;

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a plurality of second cameras for producing images of the object from different angles and having different visual fields from each other;

conversion means for converting the images produced by first and second said cameras into converted images whose pixel units are equal in the amount of object represented thereby by parallel movement by different movement amounts; and

a depth image production section for comparing the converted images using stereo imaging to calculate a distance to the object.

7. (Twice Amended) A three-dimensional structure estimation apparatus which measures a distance to an object, comprising:

a plurality of cameras for producing images of the object from different angles and having different resolutions from each other;

a conversion unit for converting the images outputted from said cameras into converted images whose pixel units are equal in the amount of object represented thereby; and

a depth image production section for comparing the converted images using stereo imaging to calculate a distance to the object.

8. (Twice Amended) A three-dimensional structure estimation apparatus which measures a distance to an object, comprising:

a plurality of first cameras for producing images of the object from different angles and having different resolutions from each other;

a plurality of second cameras for producing images of the object from different angles and having different visual fields from each other;

a conversion unit for converting the images outputted from said first and second cameras into converted images whose pixel units are equal in the amount or object represented thereby; and

a depth image production section for comparing the converted images using stereo imaging to calculate a distance to the object.

9. (Twice Amended) A three-dimensional structure estimation apparatus which measures a distance to an object, comprising:

a plurality of cameras for producing images of the object from different angles and having different resolutions from each other;

a conversion unit for converting the images produced by said cameras into converted images whose pixel units are equal in the amount of object represented thereby by parallel movement by different movement amounts; and

a depth image production section for comparing the converted images using stereo imaging to calculate a distance to the object.

10. (Twice Amended) A three-dimensional structure estimation apparatus which measures a distance to an object, comprising:

a plurality of first cameras for producing images of the object from different angles and having different resolutions from each other;

a plurality of second cameras for producing images of the object from different angles and having different visual fields from each other;

a conversion unit for converting the images produced by first and second said cameras into converted images whose pixel units are equal in the amount of object represented thereby by parallel movement by different movement amounts; and

a depth image production section for comparing the converted images using stereo imaging to calculate a distance to the object.